

# Radius Hearing Instruments

Each Radius instrument contains a state-of-the-art, open architecture circuit loaded with the intuitive power of nFusion™ Technology, and BluWave Signal Processing. Radius is the most complete and advanced line of hearing instruments, designed to fit the widest range of patients and lifestyles.



BTE



mini



OTE



ITE



ITC



CIC

# Radius™

[ with BluWave™ SP ]

# Radius Hearing Instruments

16



## Radius 16

### Top performance with enhanced fitting

Our flagship device provides the power and speed of nFusion Technology loaded with the most intelligent features ever created. Its best-in-class features are complimented with patient-friendly Voice Indicators, Self Check diagnostics and patient Reminders. Enhanced fitting features enable exceptional precision with Integrated Real Ear Measurement, along with a time-saving Auto Path feature.

*Available styles: ITE, ITC, CIC*

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12



## Radius 12

### Ideal for demanding situations

For the patient who demands high levels of performance from a hearing system, the Radius 12 is designed to identify and react to sound environments instantly. The combination of Active Feedback Intercept, Acoustic Signature and Directional Speech Detector highlight this feature-rich device.

*Available styles: BTE, mini, OTE, ITE, ITC, CIC*

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8



## Radius 8

### Solid performance without feedback

Excellent for wearers who switch regularly from a quiet setting at home to group discussions or lectures such as worship settings or meetings, the Radius 8 features the best-in-class Active Feedback Intercept as well as Directional Speech Detector, Data Log, and Environmental Adaptation. Additional features such as Touchless Telephone Response, multiple programs and Indicators make it a robust mid-level instrument.

*Available styles: BTE, mini, ITE, ITC, CIC*

# Radius Custom Hearing Instruments Reference Guide

	FEATURES	16	12	8
MAXIMUM MATRIX	ITE	120/55*	120/55*	120/55
	ITC	115/50*	115/50*	115/50
	CIC	113/50*	113/50*	113/50
FREQUENCY SHAPING	Channels	8	8	8
	Bands	12	12	10
	Memories	2 Standard 4 Optional	2 Standard 4 Optional	2 Standard 4 Optional
	Active Feedback Intercept	Off, Adaptive (default), Static	Off, Adaptive (default), Static	Off, Adaptive (default), Static
	Environment Detection	Acoustic Signature (Quiet, Noise, Speech in Noise, Mechanical Sounds, Wind)	Acoustic Signature (Quiet, Other Sounds, Mechanical Sounds, Wind)	Quiet and Other Sounds
	Directional Speech Detector	Dynamic Directional Based on KEMAR	Dynamic Directional Based on KEMAR	Dynamic Directional Based on KEMAR
FEATURES	Data Log	Standard	Standard	Standard
	Integrated Real Ear	Standard	Standard	Standard
	Self Check	Standard	NA	NA
	Reminder	Standard	NA	NA
	Audiometer	Standard	Standard	Standard
	Verify Comfort	Standard	Standard	Standard
	Indicators	Voice and Tone	Tone	Tone
	Telephone Options	Touchless Telephone Response — Standard  Programmable Touchless Telecoil — Optional	Touchless Telephone Response — Standard  Touchless Telecoil — Optional	Touchless Telephone Response — Standard  Touchless Telecoil — Optional
	Power-on Delay	Standard	Standard	Standard
	Volume Control	Optional	Up to 40 dB Range	Up to 40 dB Range
COMPRESSION CHARACTERISTICS	Maximum Output	Up to 20 dB Reduction in 2 dB Steps	Up to 20 dB Reduction in 2 dB Steps	Up to 20 dB Reduction in 2 dB Steps
	Compression Threshold	36 dB Range in 4 dB Steps	36 dB Range in 4 dB Steps	36 dB Range in 4 dB Steps
	Compression Ratio	1:1 – 3:1 (range varies by channel)	1:1 – 3:1 (range varies by channel)	1:1 – 3:1 (range varies by channel)

\*Extended matrices up to 70 dB available.  
Options vary by model

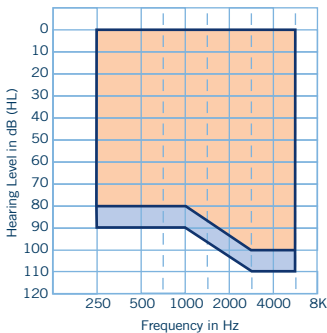
# Radius Custom Hearing Instruments Technical Specifications

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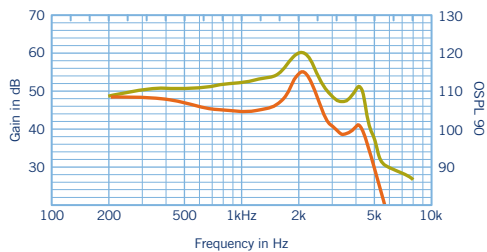
Our most discreet and automatic hearing instrument provides the power and speed of nFusion Technology, loaded with the most intelligent features ever created. Available in a range of products to fit most hearing losses.



## Radius Custom Fitting Ranges



Radius 16 ITE (blue) and ITC, CIC (orange) fitting ranges.



OSPL 90 (green) and Full On Gain (orange) curves for the Radius 16 ITE at the highest matrix of 120/55.

### Measurement Conditions and Recommendations

The data for Radius are obtained and performance is expressed according to ANSI S3.22 (1996), *Specifications of Hearing Aid Characteristics* and IEC 118-0 (1983), *Hearing aids, Part 0: Measurement of electroacoustical characteristics and Amendment 1* (1994-01). The Micro-Tech proprietary Real Time Analyzer comprises the basic test equipment. Data may be subject to change with product refinement.

Radius hearing instruments may be set to test settings within Inspire OS by reading the hearing aid and choosing Hearing Aid Test on the left navigation bar. Click the Full on Gain or User Gain buttons on this screen to set the device with adaptive features off. Because of the adaptive signal processing capabilities of Radius hearing instruments, you must be in Full On Gain or User Gain mode to compare the actual performance of the hearing instrument with these specifications.

**RF IMMUNITY LEVEL.** Radius custom hearing aids have a cell phone immunity rating of M2 or M2/T2. A hearing aid compatible cell phone must carry a rating of M3/T3 or higher to work with these hearing instruments. Please consult your cell phone specification for the cell phone immunity rating.

# Radius Custom ANSI/IEC Data

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	CIC (Completely-In-Canal)		ITC (In-The-Canal)		ITE (In-The-Ear)	
Measurement	ANSI	IEC	ANSI	IEC	ANSI	IEC
Peak OSPL 90 (dB SPL)	110 - 113	119 - 122	110 - 115	119 - 124	113 - 120	123 - 130
HFA OSPL 90 (dB SPL)	101 - 105	NA	101 - 108	NA	104 - 110	NA
RTF OSPL 90 (dB SPL)	NA	109 - 113	NA	110 - 116	NA	113 - 121
Peak Gain (dB)	30 - 50	40 - 60	30 - 50	40 - 60	30 - 55	39 - 63
HFA Full On Gain (dB)	22 - 42	NA	22 - 45	NA	24 - 48	NA
RTF Full On Gain (dB)	NA	31 - 51	NA	31 - 55	NA	31 - 57
Frequency Range (Hz)	200 - 7000	NA	200 - 7000	NA	200 - 6000	NA
Reference Test Frequency (kHz)	1.0, 1.6, 2.5	1.6	1.0, 1.6, 2.5	1.6	1.0, 1.6, 2.5	1.6
Reference Test Gain (dB)	22 - 28	24 - 38	22 - 31	24 - 41	24 - 33	24 - 46
Harmonic Distortion						
500 Hz	< 3	< 3	< 3	< 3	< 3	< 3
800 Hz	< 3	< 3	< 3	< 3	< 3	< 3
1600 Hz	< 3	< 3	< 3	< 3	< 3	< 3
Equivalent Input Noise (dB SPL)	< 28	< 28	< 28	< 28	< 28	< 28
Attack and Release Time (ANSI/IEC) – Test Mode						
Attack Time (ms)	5	5	5	5	5	5
Release Time 0.1 - s (ms)	5 - 150	5 - 250	5 - 150	5 - 250	5 - 150	5 - 250
Release Time 2.0 - s (ms)	5 - 150	5 - 250	5 - 150	5 - 250	5 - 150	5 - 250
Induction Coil Sensitivity						
HFA SPLITS (ANSI - 96) (dB SPL)	NA	NA	89 - 98	NA	90 - 99	NA
MASL (IEC 118 - 1) (dB SPL)	NA	NA	NA	63 - 85	NA	63 - 88
Battery Current (mA)	1.1 - 1.5	1.1 - 1.5	1.1 - 1.5	1.1 - 1.5	1.1 - 1.5	1.1 - 1.5
Idle Current (mA)	1.0 - 1.2	1.0 - 1.2	1.0 - 1.2	1.0 - 1.2	1.0 - 1.2	1.0 - 1.2
Estimated Battery Life for 16-Hour Day						
13 Zinc Air (days)	NA	NA	NA	NA	12 - 16	12 - 16
312 Zinc Air (days)	NA	NA	6 - 9	6 - 9	6 - 9	6 - 9
10 Zinc Air (days)	3 - 5	3 - 5	3 - 5	3 - 5	NA	NA

# Radius Custom Hearing Instruments Color Guide

Shell and Faceplate color options for custom products including Completely-In-The-Canal, Canal, Half-Shell and Full-Shell styles.

## Faceplate Colors



*Pink*



*Light Brown*



*Medium Brown*



*Chestnut*

## Shell Colors



*Pink*



*Light Brown*



*Clear*



*Blue/Red*

# Radius Standard Hearing Instruments Reference Guide

	FEATURES	12	8
MAXIMUM MATRIX	Standard	NA	NA
	Power	135/70	135/70
	mini	123/55	123/55
	OTE	115/40	NA
FREQUENCY SHAPING	Channels	8	8
	Bands	12	10
	Memories	Up to 4	Up to 4
	Active Feedback Intercept	Off, Adaptive (default), Static	Off, Adaptive (default), Static
FEATURES*	Environment Detection	Acoustic Signature (Quiet, Other Sounds, Mechanical Sounds, Wind)	Quiet and Other Sounds
	Directional Speech Detector	Dynamic Directional Based on KEMAR	Dynamic Directional Based on KEMAR
	Data Log	Standard	Standard
	Integrated Real Ear	Standard	Standard
	Self Check	NA	NA
	Reminder	NA	NA
	Audiometer	Standard	Standard
	Verify Comfort	Standard	Standard
	Indicators	Tone	Tone
	Telephone Options	Options vary by model	Options vary by model
COMPRESSION CHARACTERISTICS	Power-on Delay	Standard	Standard
	Direct Audio Input (DAI)*	BTE FM	BTE FM
	Tamper Resistant Battery Door*	Standard — BTE	Standard — BTE
	Maximum Output	Up to 30 dB Reduction in 2 dB Steps	Up to 30 dB Reduction in 2 dB Steps
	Compression Threshold	36 dB Range in 4 dB Steps	36 dB Range in 4 dB Steps
Compression Ratio	1:1 – 3:1 (range varies by channel)	1:1 – 3:1 (range varies by channel)	

\*Features vary by model.

# Radius Power BTE Technical Specifications

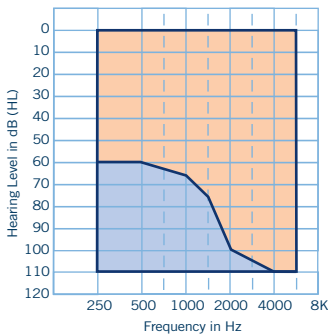
12 | 8

Our most automatic hearing instrument provides the power and speed of nFusion Technology, loaded with the most intelligent features ever created. Available in a range of products to fit most hearing losses.

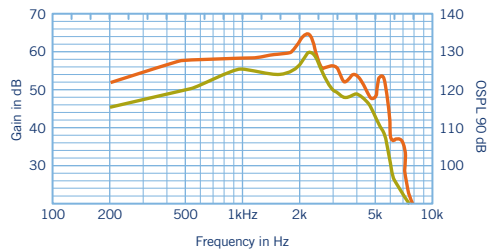


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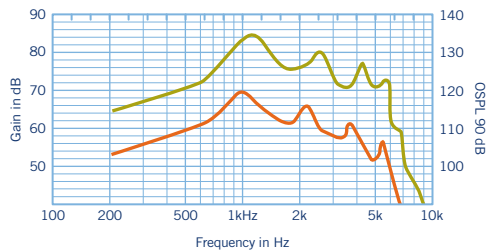
## Radius Power BTE Fitting Ranges



Radius 8, 12 and BTE standard configuration (blue) and BTE open configuration (orange) fitting ranges.



OSPL 90 (green) and Full On Gain (orange) curves for the Radius 12 BTE with the default filtered adult earhook (green damped).



OSPL 90 (green) and Full On Gain (orange) curves for the Radius 12 BTE with the unfiltered adult earhook.

### Measurement Conditions and Recommendations

The data for Radius are obtained and performance is expressed according to ANSI S3.22 (1996), *Specifications of Hearing Aid Characteristics* and IEC 118-0 (1983), *Hearing aids, Part 0: Measurement of electroacoustical characteristics and Amendment 1* (1994-01). The Micro-Tech proprietary Real Time Analyzer comprises the basic test equipment. Data may be subject to change with product refinement.

Radius hearing instruments may be set to test settings within Inspire OS by reading the hearing aid and choosing Hearing Aid Test on the left navigation bar. Click the Full on Gain or User Gain buttons on this screen to set the device with adaptive features off. Because of the adaptive signal processing capabilities of Radius hearing instruments, you must be in Full On Gain or User Gain mode to compare the actual performance of the hearing instrument with these specifications.

**RF IMMUNITY LEVEL.** Radius BTE Power 13 hearing aids have a cell phone immunity rating of M4/T4. A hearing aid compatible cell phone must carry a rating of M1/T1 or higher to work with these hearing instruments. Please consult your cell phone specification for the cell phone immunity rating.

# Radius Power BTE ANSI/IEC Data

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Measurement	BTE Power (Behind-The-Ear)	
	ANSI	IEC
Peak OSPL 90 (dB SPL)	135	139
HFA OSPL 90 (dB SPL)	128	NA
RTF OSPL 90 (dB SPL)	NA	134
Peak Gain (dB)	70	74
HFA Full On Gain (dB)	64	NA
RTF Full On Gain (dB)	NA	69
Frequency Range (Hz)	200 - 6400	NA
Reference Test Frequency (kHz)	1.0, 1.6, 2.5	1.6
Reference Test Gain (dB)	52	59
Harmonic Distortion		
500 Hz	3%	4%
800 Hz	1%	1%
1600 Hz	1%	1%
Equivalent Input Noise (dB SPL)	24	25
Attack and Release Time (ANSI/IEC) – Test Mode		
Attack Time (ms)	5	5
Release Time 0.1 - s (ms)	25	55
Release Time 2.0 - s (ms)	25	55
Induction Coil Sensitivity		
HFA SPLITS (ANSI - 96) (dB SPL)	111	NA
MASL (IEC 118 - 1) (dB SPL)	NA	99
Battery Current (mA)	1.6	1.6
Idle Current (mA)	1.2	1.2
Estimated Battery Life for 16-Hour Day		
13 Zinc Air (days)	11	11

# Radius Power BTE Color Guide

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*Beige*



*Dark Brown/  
Beige*



*Beige/Dark  
Brown*



*Dark Brown*



*Light Gray*



*Light Gray/  
Dark Gray*



*Dark Gray*



*Black/Dark  
Gray*



*Dark Gray/Black*



*Black*



*Ice*



*Ice Purple*



*Silver/Blue*

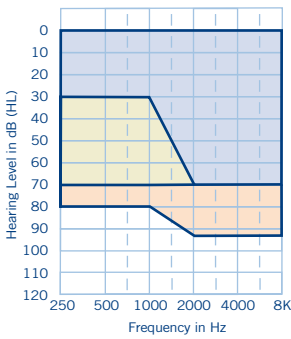
# Radius mini Technical Specifications

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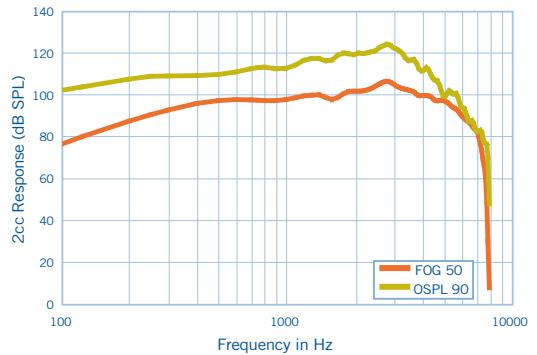
Our smallest BTE provides the power and speed of nFusion Technology in a discreet design. Perfect for most hearing losses and available for standard earhook or thin tube fittings.



## Radius mini Fitting Ranges



*Radius mini standard earhook (orange), thin tube open (blue) and thin tube occluded (green) fitting ranges.*



*OSPL 90 (green) and Full On Gain (orange) curves for Radius mini at highest matrix of 123/55.*

### Measurement Conditions and Recommendations

The data for Radius mini are obtained and performance is expressed according to ANSI S3.22 (2003), IEC 60118-7 (2005) and IEC 60118-0 (1983) with Amendment 1 (1994-01). The Micro-Tech proprietary Real Time Analyzer comprises the basic test equipment. Data may be subject to change with product refinement.

Radius hearing instruments may be set to test settings within Inspire OS by reading the hearing aid and choosing Hearing Aid Test on the left navigation bar. Click the Full on Gain or User Gain buttons on this screen to set the device with adaptive features off. Because of the adaptive signal processing capabilities of Radius hearing instruments, you must be in Full On Gain or User Gain mode to compare the actual performance of the hearing instrument with these specifications.

**RF IMMUNITY LEVEL:** These hearing instruments have a cell phone immunity rating of M3. For your cell phone to be compatible with these hearing instruments, the cell phone needs an immunity rating of M2 or higher. Please consult your cell phone specifications for your cell phone immunity rating.

# Radius mini ANSI/IEC Data

12 | 8

Measurement	mini (Behind-The-Ear)	
	ANSI	IEC
Peak OSPL 90 (dB SPL)	123	132
HFA OSPL 90 (dB SPL)	117	NA
RTF OSPL 90 (dB SPL)	NA	127
Peak Gain (dB)	55	66
HFA Full On Gain (dB)	49	NA
RTF Full On Gain (dB)	NA	57
Frequency Range (Hz)	200 - 7000	NA
Reference Test Frequency (kHz)	1, 1.6, 2.5	1.6
Reference Test Gain (dB)	39	47
Harmonic Distortion		
500 Hz	6%	6%
800 Hz	3%	3%
1600 Hz	3%	3%
Equivalent Input Noise (dB SPL)	28	28
Attack and Release Time (ANSI/IEC) – Test Mode		
Attack Time (ms)	25	25
Release Time 0.1 - s (ms)	55	55
Release Time 2.0 - s (ms)	55	55
Battery Current (mA)	1.25 - 1.6	1.25 - 1.6
Idle Current (mA)	1.2	1.2
Estimated Battery Life for 16-Hour Day		
312 Zinc Air (days)	7 - 9	7 - 9

# Radius mini Color Guide

12 | 8



*Latte*



*Pebble*



*Brushed  
Platinum*



*Tuxedo*



*Chestnut*



*Bisque*



*Burnished Iron*

# Radius OTE Technical Specifications

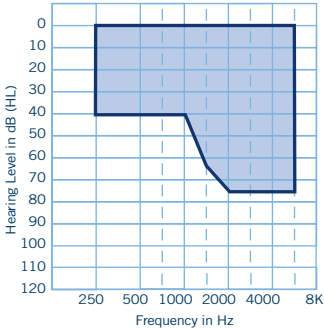
## 12 Series

With soft, flexible earbuds and extra-small casing, our on-the-ear model is light and comfortable. It's a perfect solution for first-time wearers and patients with mild to moderate hearing loss.

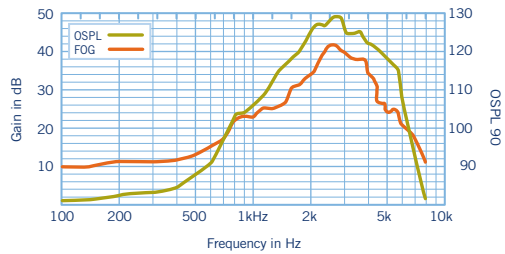


OTE

## Radius OTE Fitting Range



Radius OTE fitting range.



Simulated Real Ear Response: OSPL 90 (gray) and Full On Gain (green) curves for the Radius OTE.

### Measurement Conditions and Recommendations

The data for Radius are obtained and performance is expressed according to ANSI S3.22 (1996), *Specifications of Hearing Aid Characteristics* and IEC 118-0 (1983), *Hearing aids, Part 0: Measurement of electroacoustical characteristics and Amendment 1* (1994-01). The Micro-Tech proprietary Real Time Analyzer comprises the basic test equipment. Data may be subject to change with product refinement.

Radius hearing instruments may be set to test settings within Inspire OS by reading the hearing aid and choosing Hearing Aid Test on the left navigation bar. Click the Full on Gain or User Gain buttons on this screen to set the device with adaptive features off. Because of the adaptive signal processing capabilities of Radius hearing instruments, you must be in Full On Gain or User Gain mode to compare the actual performance of the hearing instrument with these specifications.

**RF IMMUNITY LEVEL.** Radius OTE hearing aids have a cell phone immunity rating of M2. A hearing aid compatible cell phone must carry a rating of M3 or higher to work with these hearing instruments. Please consult your cell phone specification for the cell phone immunity rating.

# Radius OTE ANSI/IEC Data

## 12 Series

Measurement	Radius OTE	
	ANSI	IEC
Peak OSPL 90 (dB SPL)	115	122
HFA OSPL 90 (dB SPL)	108	NA
RTF OSPL 90 (dB SPL)	NA	114
Peak Gain (dB)	40	53
HFA Full On Gain (dB)	38	NA
RTF Full On Gain (dB)	NA	47
Frequency Range (Hz)	400 - 5800	NA
Reference Test Frequency (kHz)	1.0, 1.6, 2.5	1.6
Reference Test Gain (dB)	31	39
Harmonic Distortion		
500 Hz	NA	2
800 Hz	1	2
1600 Hz	1	2
Equivalent Input Noise (dB SPL)	22	22
Attack and Release Time (ANSI/IEC) – Test Mode		
Attack Time (ms)	5	5
Release Time 0.1 - s (ms)	35	50
Release Time 2.0 - s (ms)	35	50
Battery Current (mA)		
Idle (mA)	1.3	1.4
	1.2	1.2
Estimated Battery Life for 16-Hour Day		
312 Zinc Air (days)	8	7
10 Zinc Air (days)	NA	NA

# Radius OTE Color Guide

On-The Ear



*Beige*



*Smoke*



*Light Gray*



*Dark Gray*



*Black*



*Brown*